

A M A T E U R R A D I O

NOVEMBER 1964



Vol. 32, No. 11

1A3	2/0	5/0	£1	2C02	15/-	GBE6	15/-	8SF5	7/0	3	£1	12A2T	15/-	5	£1	800	10/-	ECM35	7/0				
1A5	5/0	5/0	£1	2C06	18/-	GBQ5	17/-	8SF7	7/0	3	£1	12AT7	5/-			800	20/-	EF29	5/0				
1C7	3/0	7	£1	2D01	12/-	6C4	5/-	5	£1	6H87	4/-	0	£1	12A07	15/-	830B	15/-	EF70	(V810)				
1D8	7/0	3	£1			6C8	10/-	8K5	12/0			12AV6	7/0	3	£1	866	23/-						
1F5						6C9	10/-	8K10	15/0			12C02	3	£1	935	3/0	5	£1	EF70	and socket 5/0			
1H5	7/0	5	£1			6C35	10/-	8L17WG7	12/0			12C5	5/0	5	£1	935	3/0	5	£1	EF72	5/0		
1K4	5/0	5	£1			6C4	25/-	8N17WG7	12/0			12B6	3/0	7	£1	956	3/0	5	£1	EF73	5/0		
1K5	5/0	5	£1			6C4	25/-	8Q47G7	22/-			1215	5/0	5	£1	958A	2/0	10	£1	EF70	5/0		
1K6	5/0	5	£1			6C4	25/-	8S57	2/0	3	£1	12CAG7	10/-			1610	16/-						
1L4	5/0	5	£1			6G0G	7/0	3	£1	807	7/0	3	£1	12S7C7	5/0	5	£1	1623	3/0	5	£1	E310	5/0
1L5	5/0	5	£1			6G0G	25/-	8K10	15/0			12S7C7	5/0	5	£1	1626	3/0	5	£1	QQ28	12/0		
1LN5	(V810)					6H87	5/0	8K10	15/0	3/0		12S7C7	5/0	5	£1	1629	3/0	5	£1	QQ40	25/0		
						6A6	7/0	3	£1	6J6T	10/-	12S7C7	5/0	5	£1	2031	3/0	5	£1	QQ40	25/0		
1M5	5/0	5	£1			6A87	10/-	6K4	10/-			10	5/0	3	£1	2031	3/0	5	£1	1C41	7/0		
1P5	3/0	5	£1			6AC7	7/0	3	£1	6K5	5/0	5	£1	6G0	7/0	3	£1	2031	3/0	5	£1	VR03	5/0
1Q5	5/0	5	£1			6A87	10/-	6K5	5/0	5	£1	6G0	7/0	3	£1	2031	3/0	5	£1	VR03	5/0		
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1U9	2/0	5	£1			6A87	10/-	6K5	5/0	5	£1	6G0	7/0	3	£1	2031	3/0	5	£1	VR03	5		

MREP 0-1 no. 14% in square face, 1 in. round hole, clear plastic case	...	32/6
MREP 14% in square face, 1½ in. round hole, black bakelite case	...	32/7
MREP 50 uA. 47/8	MREP 15 mA.	35/-
MREP 500 uA. 97/6	MREP 50 mA.	35/-
MREP 5 mA. 35/-	MREP 100 mA.	35/-
MREP 5 mA. 35/-	MREP 250 mA.	35/-
MREP "S" Meter 45/-	MREP "VU" Meter 45/-	
MREP 50 ohms to 30 db. F.S. 1 in. hole	...	41/10/0
HCB3 edgeclaw "B" Meter	...	42/6
MREB 3½ in. square face, 2½ in. round hole, black bakelite case	...	63/-
MRES 100 uA. ....	...	63/-
MRES 1 mA. ....	...	63/-
MREB 3¼ in. square face, 2½ in. round hole, clear plastic case	...	47/8
MREB 1 mA. ....	...	47/8
MREB "VU" Meter	face, 2½ in. round hole, clear plastic case	47/8
MREP 1 m.a. ....	...	47/8
MREP "VU" Meter ....	...	£3/17/6
MOE 3 in. square face, 2½ in. hole, black bakelite case	...	35/-
MOES 1 mA. 35/-	MOES 1 amp.	35/-
MOES 5 mA. 35/-	MOES 20mA. AC/DC	35/-
MOES 10 mA. 35/-	MOES 50mA. AC/DC	35/-
MOES 20 mA. 35/-	MOES 15 volt DC	35/-
MOES 30 mA. 35/-	MOES 30 volt DC	35/-
MOES 150 mA. 35/-	MOES 50 volt DC	35/-
MOES 250 mA. 35/-	MOES 50 volt AC	35/-

4 1/2" x 3" (291)	3/3	6" x 4 1/2" (292B)	5/9
6" x 14" (—)	3/-	6" x 6" (297)	7/6
6" x 2 1/2" (270)	3/6	9" x 4 1/2" (293)	8/6
6" x 3" (296)	4/-	9" x 6" (298)	11/6

OC45	14/-	OC170	17/6
OC71	10/-	OC171	17/6
OC74	11/-	OC45	14/-

Packing and Postage 1/-

Ratio	8 to 1 reduction, scaled 0-10.		
Type	T501, 1½" diam.	17/6	inc. tax
Type	T502, 2" diam.	22/-	" "
Type	T503, 3" diam.	28/-	" "

Packing and Postage lld.

4 oz. Reels					
16	B	&	S	Enamel	9/6
16	B	&	S	Enamel	8/6
16	B	&	S	Enamel	9/6
12	B	&	S	Enamel	14/-
24	B	&	S	Enamel	16/6
26	B	&	S	Enamel	9/6
32	B	&	S	Enamel	12/4
30	B	&	S	Enamel	13/6
33	B	&	S	Enamel	15/6
30	B	&	S	Enamel	21/-

16 GAUGE									
Five-Core in 1-lb. Packets:									
40/60	.....	.....	.....	.....	12/-	60/40	.....	.....	22/-
					or in 7-lb. Keels:				
40/60	.....	.....	.....	.....	£6/2½	60/40	.....	.....	£12/½
					also per Yard:				
40/60	.....	.....	.....	.....	3d.	60/40	.....	.....	9d.

CC-2	1 inch, 15 ohms	53/57
CC-2	1 inch, 15 ohms	53/57
CC-3	1 inch, 3.5/15 ohms	53/57
CC-4	1 inch, 3.5/15 ohms	53/57
CC-5	1 inch, 3.5/15 ohms	53/57
SS-4C	5 x 4 inch, 3.5/15 ohms	50/56
SS-4	5 x 4 inch, 3.5/15 ohms	50/56
SSH-7	1 inch, 3.5/15 ohms	57/61
HE-8	1 inch, 3.5/15 ohms	57/61
RMX-8	1 inch, 15 ohms	52/56
WEH-9	6 x 6 inch, 3.5/15 ohms	57/61
12M-12	12 inch, 2/15 ohms	57/61
12MX-12	12 inch, 15 ohms	57/61

50 ohm, UR67, 3/8" diam., in 25 yd.
Rolls 25/-; or 1/6 yard.
72 ohm UR70, 3/16" diam., in 27 yd.
Rolls 30/-; or 1/6 yard.
72 ohm, 3/16", 35 feet 10/-.
Packing and Postage 1/6

Model TR55
Sensitivity: d.c. 20,000 ohms/volt, a.c. 10,000 ohms/volt. Ranges, d.c. 10, 30, 120, 400, 1,200; a.c. volts: 6, 30, 120, 800, 1,200. D.C. current, 60 μ A, 6 mA, 60 mA, 600 mA. Resistance: 10K, 100K, 1M, 10M ohms. Capacitance: 0.001-0.3 μ F, 0.0001-0.01 μ F. Inductance: 35-3,000H. Decibels: minus 20 to plus 17 db. (0 db. -0.775V. Weight 1.5 lbs. Dimensions: 4 1/4 x 6 1/4 x 2 1/4 in. Fit Unit 1.3 lbs.

OA210/1N1763 500 p.i.v. 500 mA. 7/6
OA211/AR800 800 p.i.v. 500 mA. 19/6
Packing and Postage 1/-

1N21 Mixer U.H.F. Freq. 3080 7/6
1N23A Mixer U.H.F. 9375 Mc. 7/6
or 3 for £1. Packing and Postage 1/-

OA79, OA91, 1N34A .. 4004 2100 4/6 each
Packing and Postage 1/-

3/16 inch diameter 1/6 each

HOZAN CHASSIS PUNCH SET
 Sizes: 16, 18, 20, 25, and 30 mm.
Price £3/7/6 set Packing and Postage 3/6

30 feet high, ten 3-ft. rods, $\frac{7}{8}$ inch diam.
guy ropes and pegs, etc. £3, for rail.

LOG BOOKS 6/6 each, postage 1/-

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Radios, Kew Brand Meters, A. & R. Transformers and Transistor Power Supplies, Ducon Condensers, Welwyn Resistors, etc.

"AMATEUR RADIO"

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NOVEMBER 1964

Vol. 32, No. 11

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OUR COVER

Our interested viewers appear
puzzled as to the means by which
so much is packed into so little. The
unit is one of the Collins Line which,
along with many other similar types,
has done much to make popular the
transceiver type of equipment.

FEDERAL COMMENT

★

THE AMATEURS' ROLE IN CIVIL DEFENCE

Before World War II, the Amateur provided the backstay when
emergency communications were required. After the war, the Amateur
was instrumental in aiding the establishment and training of commun-
ication groups in a number of volunteer organisations.

As these organisations progressed and State Instrumentalities set up
and expanded their own communications services, the Amateur's role
appeared to become less important; however, when the Civil Defence
School was established at Mount Macedon, Victoria, investigations by
communications study groups soon revealed that the Amateur still had a
very important role to play in the early stages of any emergency.

Many Amateurs have passed through the School as representatives of
either the W.I.A. or organisations employing them. The importance of
this training to the community is inestimable.

The recognition the Government has accorded W.I.A. representatives
in this important work is both gratifying and significant.

Each State Premier's Office is allotted a quota for each study group
or course. The W.I.A. has always been invited to nominate members for
inclusion in the contingent. These study groups embrace every aspect of
civil emergency work, and thus representatives of every section of the
community take part in general discussions; however, specialised studies
or courses are held in every field. In these cases every organisation
interested in the particular subject is represented.

All that is asked for participants is that they spread the knowledge and
experience gained amongst their fellow citizens. In the case of W.I.A.
representatives, dissemination is via W.I.C.E.N., the object being to ensure
that a maximum number of skilled personnel will be ready to meet any
emergency.

Amateurs willing to help in this work should advise their Divisional
W.I.C.E.N. Co-ordinator who will arrange for their names to be added to
the list of nominees to be forwarded to the Premier's Office. The success
of W.I.C.E.N. depends entirely upon the enthusiasm of members.

As an example, the Victorian W.I.C.E.N. group are to participate in
a large scale exercise this month. The success of this exercise from an
Institute viewpoint is important from the accorded status, but even more
so from the aspect of the practical application of the Amateur's knowledge
of communications.

FEDERAL EXECUTIVE, W.I.A.

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AN S.S.B. TRANSCEIVER FOR 52 Mc.

I. F. BERWICK,* VK3ALZ

A comparison of the block layout for the 52 Mc. Transceiver (Fig. 1) with the original circuit of the PT118 shows that four additional major components are required:—

1. A 48 Mc. v.f.o.
2. A 4 Mc. crystal filter.
3. A solid state d.s.b. generator.
4. If mobile operation is intended,
a new power supply.

Each of these components is built and aligned as a separate sub-assembly. The order in which they are made is of no consequence and can be done according to availability of components, etc. Be prepared to devote quite a few man-hours to each of these assemblies.

Notes on the circuitry, layout and alignment of each sub-assembly appear later, plus diagrams.

● The author has converted a Pye Reporter PT116 to a 52 Mc. S.a.b. Transceiver. A conversion for any other frequency from 3.5 to 144 Mc. is equally possible.

3. Convert Receiver front-end to 52 Mc. This is done as follows:—

(a) Remove coil assembly of L2, L3, L4, re-wind coils with 8 turns 18 B. & S. enamel, wind 2-turn link at cold end of L3. Tap L4 at 7 turns. Replace assembly.

(b) Remove and re-wind L1 with 9 turns 16 B. & S. enamel. Tap at 1½ turns. Replace L1.

tube. The original shield across the socket will have to be modified to achieve this—additional shielding is added to completely isolate the p.a. tank.

The p.a. loading capacitor, an A.W.A. concentric trimmer with screw-driver adjustment, is mounted on the side wall in the p.a. tank compartment. Wind and instal new p.a. coil and loading (link) coil.

Fit a shim brass shield across underneath chassis as shown in Fig. 2.

Mount connectors for mic. input,
v.f.o. input, and antenna.

Complete wiring of Reporter unit—
running all supply wiring in shielded
cable.

Refer to drawings for layout of various components (Figs. 3 and 4).

CRYSTAL FILTER ALIGNMENT

The performance of the transceiver is critically dependent on this component. I include in some detail two alternative alignment procedures.

Method 1 is the more speedy and accurate method. The test set-up is as per Fig. 5.

With this set-up the filter response curve is viewed directly on the c.r.o. screen. See Fig. 6.

It is now a comparatively simple matter to correctly align the filter.

TR3 and TR4 (Fig. 7) should be resonated at 4 Mc. If the camel hump is not now symmetrical, TR4 should be detuned from resonance slightly, either higher or lower until symmetry is achieved.

R should now be varied to try and further improve the response curve—47K to 39K should give a satisfactory result.

If it is desired to measure the pass bandwidth proceed as in Method 2.

If a satisfactory response cannot be obtained, check that IFT1 is correctly tuned. If still unsatisfactory, filter will have to be re-built. Proceed as follows:

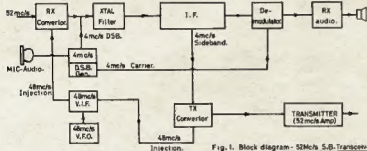


Fig. 1. Block diagram - 52Mc/s S.B. Transceiver.

(c) L1, L2, L4 are now grid dipped
at 52 Mc. L3 at 48 Mc.

(d) Wire in modifications to receiver audio circuitry.

(e) Mount crystal filter in can of IFT1 and instal in position on chassis.

(f) Fit d.s.b. generator and RL2, RL3 in power supply compartment. A shield partition is fitted to isolate this compartment from the main chassis.

(g) Fit socket for QQC04/15—a local type. This has to be lowered approx. 1" below chassis to accommodate the

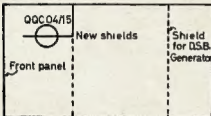


Fig. 2.—Position of New Shields.

The major assembly is the Pye Reporter unit. This is converted as follows:

1. Remove all redundant components and wiring—compare the new circuit with the old for this operation. The following components are redundant:
 - (a) Vibrator power supply.
 - (b) IFT3.
 - (c) IFT1—the can is saved for crystal filter.
 - (d) Mike transformer.
 - (e) Socket of V10 and its grid wiring.
 - (f) Terminal strip for carbon microphone
 - (g) Terminal strip for crystal oscillator V4 and crystal oscillator V12—also crystal sockets.
2. Convert IFT2, IFT4, IFT5 to 4 Mc. Remove 100 pf. across each winding and replace with 33 pf. Then replace IFT2, IFT4, IFT5.

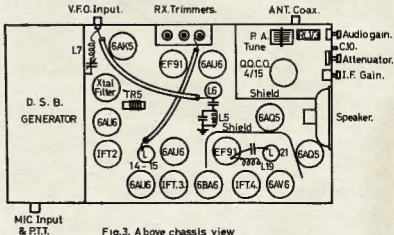


Fig.3. Above chassis view

Dismantle filter, check pole-zero spacing of each crystal. Measure pole frequencies. There should be two f_1 crystals (± 80 c.p.s.) and two f_2 crystals, where $f_1 \approx f_2$ = pole-zero spacing.

If not, crystals will have to be shifted around until this is so—either by etching or grinding. Frequency can be lowered if desired by rubbing a little solder onto the quartz. Re-build filter when crystals are OK and repeat alignment procedure.

For the average FT243 filter a response of 3 kc. at 6 db. down and 12 kc. at 80 db. is considered satisfactory with passband ripple not exceeding 3 db.

Method 2: Test set-up as per Fig. 8. Proceed as follows:

(1) Assuming d.s.b. has been previously aligned, insert carrier by unbalancing VR1 (Fig. 16, d.s.b. gen.)—a smooth stripe should appear on c.r.o. screen (audio generator should be off). Peak TR3, TR4 for maximum stripe width.

(2) Remove carrier, inject audio signal (1,000 c.p.s.). If filter correct a nearly smooth stripe should appear. If not, carrier and/or unwanted sideband are present, as Fig. 9.



FIG. 4

It is now possible to measure (a) the pass-band response by plotting stripe height in inches or volts (if the c.r.o. is calibrated) against frequency, using $db. = 20 \log E_1 \div E_2$, where E_1 is the maximum stripe height; (b) the stop-band response by plotting stripe ripple against frequency, using $db. = 20 \log E_1 \div E_2$, where E_1 and E_2 are as in Fig. 10.

When a picture of the response curve is obtained by this method, the necessary adjustment of TR4 and R can be made to complete the alignment of the filter.

In this discussion no mention has been made of the frequency of the carrier crystal relative to the filter. In v.h.f. it is usual to use upper sideband.

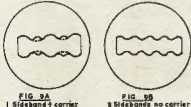


FIG. 9A

FIG. 9B

1 Sideband + carrier

2 Sidebands no carrier

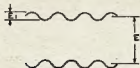


FIG. 10.

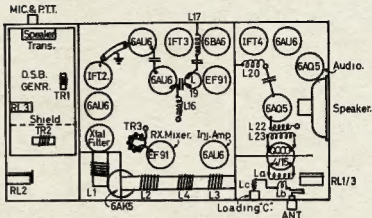
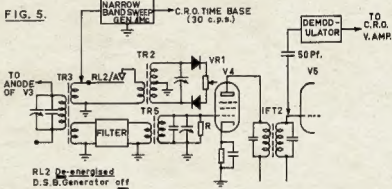


Fig. 4. Under chassis view.

FIG. 5.



RL2 De-energised
D.S.B. Generator off

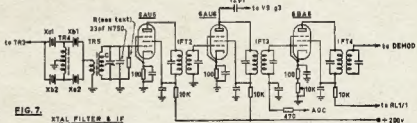
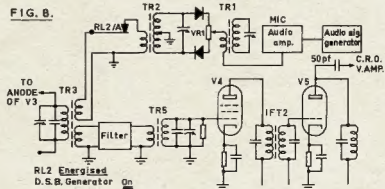


FIG. 7.

XTAL FILTER & IF
All by-passes 2.2K pF. unless otherwise stated.
C—Philips trimmer.
TR4—18 turns 18 B. & S. enamel on Q2 toroid (Ducan).
TR5—Primary: 4 turns 18 B. & S. enamel; Secondary: 14 turns 14 B. & S. on Q2 toroid.
Xal, Xa2—4000.0 kc.
Xb1, Xb2—4002.0 kc.

FIG. 8.



RL2 Energised
D.S.B. Generator On

It is the practice, therefore, to set the carrier frequency 20 db. down the i.f. skirt of the filter.

This occurs usually when the pole of the carrier crystal is approx. 400 c.p.s. lower than the pole of the I.F. crystals in the filter.

The carrier crystal should be ground to this frequency (i.e. f. -400) and the alignment as described carried out.

If the tests indicate that a shift in carrier crystal is desirable, this may be done at any time after the alignment of the filter.

Alignment Pictures

Method 1—Fig. 11:

- A—TR4 not correctly tuned, unsymmetrical, hump, stop-band pop-up.
- B—TR4 tuned too far in other direction.
- C—TR4 correctly tuned, but R too large.
- D—Correct response, TR4 OK, R OK.



FIG 11A



FIG 11B



FIG 11C



FIG 11D

Method 2—Fig. 12:

- A—Smooth stripe, carrier only.
- B—1,500 c.p.s. sideband, ref. level 0 db., suppression of unwanted sideband ~ 25 db., carrier suppression 50 db.
- C—500 c.p.s. sideband, ref. level -8 db., s.b. suppression ~ 10 db., carrier suppression 50 db.
- D—3,000 c.p.s. sideband, ref. level -8 db., s.b. suppression 35 db., carrier suppression 50 db.



FIG 12A



FIG 12B



FIG 12C



FIG 12D

V.I.F.s.

I propose to make a few remarks introductory to this important subject. I hope to make a further discussion at a later date in connection with a 144 Mc. s.b. transceiver I am developing.

A v.i.f. (variable i.f.) is a device which passes a signal tuneable over a specified range without appreciable attenuation, but highly attenuates all other signals outside this range.

Spurious signals from the injection sources which fall in the v.i.f. and pass through unattenuated are called cross-overs. A very important aspect of v.i.f. design is reduction of cross-over energy. V.I.F.s may be divided into four basic types—

- (1) Mechanically or electrically ganged to v.i.o.
- (2) Bandpass.

(1) and (2) are further sub-divided into (a) injection v.i.f., (b) signal (or s.b.) v.i.f.

I have used type 2a in my transceiver.

I state without proof the rules for v.i.f. design—

- (1) V.I.F. tuning range (or bandwidth) should be minimal contingent upon other design factors, e.g. 200 kc.
- (2) The amplitude of a spurious cross-over is an inverse function of its order. Therefore spurious cross-overs should be of high order.

Example: If $f_{VIF} = f_{VFO} + N f_{EXTAL}$ and $f_{OP} = f_{IF}$, where $f_{EXT} = R f_{VFO} - S f_{EXTAL}$, f_{OP} is said to be of order $R + S$. For small energy at f_{OP} , $(R + S)$ should be large. Note: R, S, N are integers.

$$\left. \begin{aligned} (3) f_{VIF} &\div f_{VFO} \\ f_{VIF} &\div N f_{EXTAL} \\ N f_{EXTAL} &\div f_{VFO} \end{aligned} \right\} \text{Should not be integers, or if integers, should be large, i.e. } > 3.$$

Readers requiring further information at this stage should consult Collins S.B. Handbook.

It will be seen that in my transceiver tuning range is somewhat greater than is customary, but choice of v.i.f., v.o. and crystal are good so that this factor is less serious than it might have been.

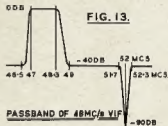


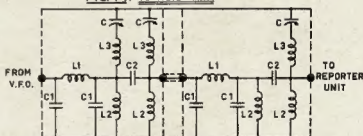
FIG. 13.

Fig. 13 shows the pass-band characteristic of the 48 Mc. v.i.f. This v.i.f. consists of two low pass constant K sections, cut-off 49 Mc., plus two high pass constant K sections, cut-off 46.5 Mc., plus shunt traps to give a notch at 52 Mc. (See Fig. 14.)

52 Mc. TX SECTION

This is explained by reference to the circuit of Fig. 15. A top coupled filter is used between AUG mixer and EF91 class A. This, in conjunction with an absorption trap, prevents the 48 Mc.

FIG. 14. 48 MC/S V.I.F.



C2—30 pF. Philips trimmer.

C1—56 pF. ceramic.

C2—33 pF. ceramic.

L1—3 turns 18 g. tinned copper, spaced wire diameter. 1/8 inch diam.

L3—4 turns, ditto.

L3—8 turns 18 B. & S. enamel, close spaced. 1/8 inch diameter. All coils self supporting.

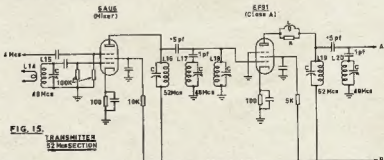


FIG. 15. TRANSMITTER 52 Mc SECTION

All by-passes 14 pF. ceramic unless otherwise specified.

C2—30 pF. Philips trimmer.

CN—Philips trimmer, cut down to two plates (1 fixed, 1 moving).

R, L—5 turns 22 B. & S. wound on 47 ohm 1/2-watt carbon resistor.

L1—10 turns 14 g. tinned, 1/8 inch diam. c.t.

L2—3 turns 14 g. tinned, 1/8 inch diam.

L3—4 turns 18 g. enamel, 3/8 inch diam.

Alignment of this section is straightforward. All tanks are grid-dipped to the appropriate frequencies. Neutralise the 6AQ5 according to accepted practice, peak the 52 Mc. coils for maximum drive at 52.5 Mc., adjust the traps for minimum 48 Mc. feedthrough, and carry out linearity checks of the final according to the approved procedure.

D.S.B. GENERATOR

The active components in this section are solid state to save space, and simplify the mechanical considerations. The complete unit is wired on a matrix board which fits neatly in the space vacated by the power supply. All information necessary for its construction is given in Fig. 16.

The diodes should be selected so that their forward resistances are approxi-

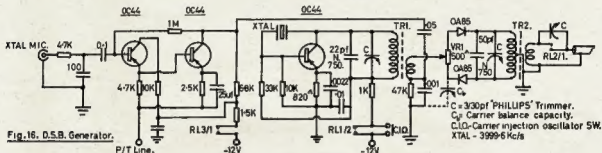
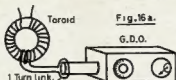


Fig. 16. D.S.B. Generator.

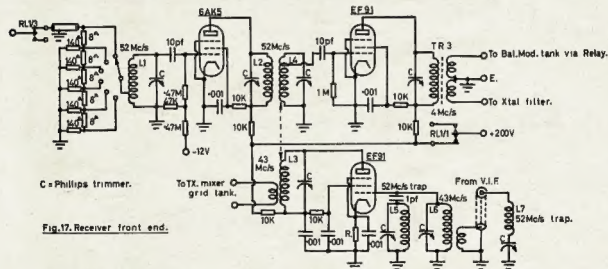


Fig.17. Receiver front end.

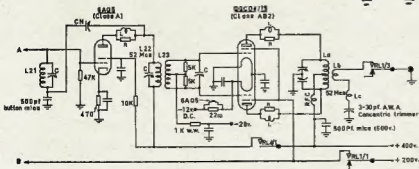


Fig. 16 Parts List

- D1, D2—OAS5a.
Q1, Q2, Q3—OC44.
TR1—Primary: 14 turns 14 E. & S.; secondary:
4 turns 18 E. & S.
TR2—Primary: 14 turns 14 E. & S. c.t.; sec-
ondary: 4 turns 18 E. & S. Both TR1
and TR2 on Q2 toroids (Ducan).

Fig. 17 Parts List

- All by-passes are 1K pF. ceramic.
C—Phillips trimmer.
R1—8 ohms, carbon.
R2—140 ohms, carbon.
L1—9 turns 18 B. & S., tapped 1.5 turns.
L2, L3, L4—8 turns 18 B. & S. L4 tapped at
7 turns. Wind two-turn link at cold
end of L2.
TR3—Primary: 14 turns 18 B. & S.; Secondary:
taps 2: 4 turns 18 B. & S. each. Core
C3 toroid.



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Check carrier balance, the potentiometer is the coarse balance control and the capacitor the fine control. It will be necessary to find by experiment across which arm of the balanced modulator the capacitor should be placed. 40 db. carrier suppression should be achieved without difficulty. (Remember that a further carrier attenuation occurs in the filter.)

Check double sideband output in the receiver or c.r.o. for intermodulation distortion. Linearity should be satisfactory if the operating conditions for diode balanced modulators are adhered to.

RECEIVER FRONT-END

Concurrent with modern practice, a stepped attenuator is incorporated. This is mounted on the front panel. The speaker transformer has to be shifted to the rear side wall to make room for this. The 48 Mc. injection amplifier 6AU6 runs all the time. The h.t. to

tion is injected into the i.f. after the mixer.

This is achieved as follows: When RL2 is de-energised during receive, thus removing the load from the bal. mod. tank, the balanced modulator becomes unbalanced. A Philips trimmer wired across the contacts of RL2 provides a means of adjusting the level of carrier injected into the i.f.

Carrier derived a.g.c. is shown on the circuit (Fig. 18). An audio derived a.g.c. system on a matrix board sub-assembly is available for fitting, this is not shown as most people seem to have their own preferences with respect to a.g.c. systems.

48 Mc. V.F.O.

This is constructed as an outboard unit designed for mounting on the steering column of a motor vehicle. The 5 Mc. v.f.o. is a modified Command unit. The heterodyning section and the 48 Mc. v.i.f. are mounted in separate

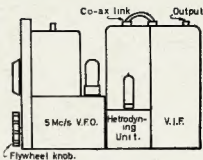


Fig. 19. 48Mc/s V.F.O. (side view)

shielded compartments at the rear of the modified Command unit. (See Fig. 19.)

The modification to the Command unit is as follows:—

- (1) Remove all wiring under chassis.
 - (2) Remove front panel, disconnect bowden drive to oscillator capacitor.
 - (3) Cut through chassis in a line with front of oscillator capacitor.
 - (4) Mount front panel on the oscillator portion of the chassis so that the tuning gears line up with the oscillator capacitor drive gear.
 - (5) Wire up as per circuit (Fig. 20). The oscillator is a Franklin followed by a cathode follower and then a class A tuned stage.
 - (6) Fit a large flywheel tuning knob.
- The construction of the heterodyning unit and v.i.f. is straightforward and the diagrams should be self explanatory. Note that these stages run all the time.

(Continued on Page 8)

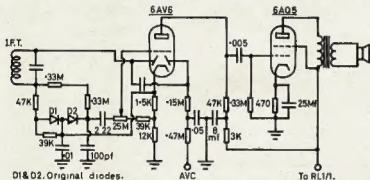


Fig. 18. Receiver noise limiter - demodulator & audio amplifier.

the 6AK5 and EF91 is removed by RL1/1 during transmit, so disabling these stages. See Fig. 17.

The first two i.f. stages run at constant gain at all times. The third i.f. stage has both manual and automatic gain control.

The manual gain potentiometer is mounted on the front panel as follows: Remove top right hand speaker mounting screw, drill a 3/8-inch clearance hole, using the old mounting hole as centre. Mount miniature 10K potentiometer in this hole.

NOISE LIMITER, DEMODULATOR AND AUDIO AMPLIFIERS

This section (Fig. 18) is largely unchanged from the original Reporter circuitry. Carrier for s.b. demodula-

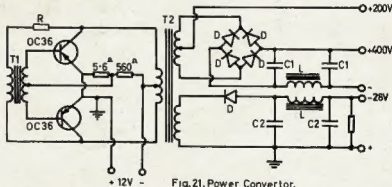


Fig. 21. Power Converter.

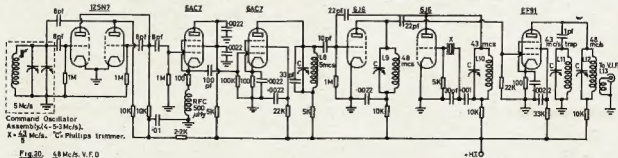


Fig. 20. 48 Mc/s V.F.O.

FURTHER NOTES ON WINDING TRANSFORMERS

In his article, "Re-winding Transformers" ("A.R." Sept. 1964), Ian Phillips has stated a way to determine the turns per volt of the windings. I do not wish to be unkind, but his method is misleading.

The turns of a 5 or 6.3 volt winding are not necessarily a multiple of 5 or 6 respectively. A power transformer is designed to give correct heater voltages on load (all windings normally fully loaded).

The following factors are taken into account to arrive at t.p.v.—

- Flux density (core loss),
- Wire gauges (copper loss),
- Increase in wire resistance with temperature rise,
- The final estimated working temperature above ambient.

These determine the transformer "regulation".

A typical design of about 100 to 150 watts rating would probably use a core of the E and I waste-free type, either a 1½" centre leg and 2" stack, or 1½" centre leg and 1½" stack. Core material is a matter of size and temperature rise, and can vary accordingly.

However, to get to the point, the heater winding voltages off load and therefore the turns depend on the factors stated earlier. This may be seen from the figures given in Table 1, and the same applies to other core sizes and areas.

Core Leg X Stack (Inches)	Approx. Net Area (Sq. In.)	T.P.V. for Flux in Kgausses*		
		10	11	12
1½ × 1½	2.1	3.3	3	2.75
1½ × 2	2.3	3	2.75	2.5
Turns 5v. wdg.	→ 2.1	18 (5.46)	16 (5.32)	15 (5.46)
Turns 6.3v. wdg.	→ 2.1	22 (6.67)	20 (6.69)	19 (6.9)

Table 1.

Figures in brackets are typical "off-load" voltages.

* Multiply by 6.45 for K lines/sq. in.

It will be seen that a winding of 18 turns could be a 5v. or 19 turns a 6.3v. winding. Therefore, with a faulty transformer, it is a little difficult, if not impossible, to arrive at the t.p.v. If not faulty, the turns of the heater winding divided by the off-load volts will give the t.p.v. provided the correct voltage is applied to the primary, and the meter is reasonably accurate. (All secondary windings unloaded.)

The only other way is to assume a normally used flux density, e.g. 11 Kgausses or approx. 70,000 lines, and the t.p.v. is near enough to 6.8 divided by the cross-section area in square inches as measured with a rule. This gives you a fair chance of being "near the mark" or can be used for a complete re-wind.

—Andy Roudie, VK3UJ.

S.S.B. TRANSCEIVER

(Continued from Page 7)

POWER CONVERTER

A suitable power unit is shown in Fig. 21.

T1: primary 100 turns of 22 B. & S. secondary 50 turns c.t. of 22 B. & S. Core: Ducon Q1 toroid.

T2: primary 62 turns c.t., 16 B. & S. secondary (1), 600 turns c.t., 26 B. & S.; secondary (2), 100 turns, 26 B. & S. Core: Permalloy C core, 100 v.a. rating. Note: Core from APX-1.

A suitable control unit is shown in Fig. 22.

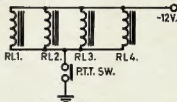


Fig. 22. Control circuit.

CONCLUSION

A complete transceiver has been described. Enough information has been presented to enable a transceiver to be designed for any frequency—3.5 to 144 Mc.—using Reporter components.

By building one's own along the lines indicated, it is possible to enjoy the advantages of transceiver operation at a small fraction of the cost of commercial units.

Finally I am indebted to VKs 3AHL, 3ADF and 3CZC for numerous suggestions which have proved invaluable during the development of this unit. ●



D.X.C.C. CONTEST

"All the DX you can work in a year" is the object of the First Annual D.X.C.C. Contest being sponsored by the Long Island DX Association in order to stimulate DX activity throughout the world.

The Contest will begin at 0001 G.M.T., 1st January, 1965, and end at 0000 G.M.T., 31st December, 1965. Contestants will be required to work as many different countries over 100 as possible in order to be eligible for the special prizes which will be offered by the L.I.D.X.A. Any mode and any band may be used but full contact confirmation from each country will count. The Contest will be based on A.R.R.L. D.X.C.C. rules and the A.R.R.L. Countries List will be followed.

The prizes to be awarded to the winners include the Long Island DX Association Trophy, going to the top scorer in the world; six unique trophies, one to be awarded to the top scorer on each of the six continents; and individual certificates to be awarded to the top scorers in each country from which entries are submitted as well as winners in each of the U.S.A., Canadian and Australian districts.

At the close of the Contest, participants will be required to submit just their lists of confirmed countries worked to "L.I.D.X.A. Contest," P.O. Box 59, Lynbrook, New York, with postmarks no later than February 15, 1966. Potential winners will be notified and will be requested to submit all their Contest QSLs to the Contest Committee whose members are: Joe Heilmann, W1MSE; Dorothy Struben KEMGE; Win Tones, W4QZQW; and Mary Frickins, W2FGD. A complete list of winners will be published as soon as the committee has completed the tabulation of the entries. For any additional information, contact the L.I.D.X.A. Contest Committee members via P.O. Box 59, Lynbrook, New York.

—VK4AS.

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Page 9

GALAXY S.S.B. TRANSCEIVERS

Galaxy III.—80-40-20 Mx	£230	Accessories (continued):—	
Galaxy V.—Five Bands	£300	External Second V.f.o.	£40
Accessories:—		12v. d.c. power supply	£80
Crystal Calibrator	£12½	12v. d.c. "Topaz" p. sup.	£55
Vox Unit	£16	240v. a.c. power supply	£30

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FEATURING—

- Smallest 300-watt s.s.b./c.w. Transceiver—6" x 10½" x 11½". Weight 13 lbs.
- Full coverage on all bands. Linear tuned V.f.o. covers 500 kc. each band.
- Six-Crystal 9 Mc. Filter, bandwidth 2.1 Kc. at 6 db. down.
- U.s.b. or L.s.b. selectable, with illuminated indicators.
- Transistorised a.v.c. audio. Combined 8 meter and Plate Meter.
- A.L.C. boosts talk power and prevents "flat topping".
- Receiver sensitivity 1 microvolt for 10 db. S/N. Audio derived a.g.c.
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- Grid block keying for c.w. Output impedance: 50 ohms, adjustable.
- Pi-Net range: 40-100 ohms, resistive. Reduced power tune position.

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ACCURACY 0.01% OF
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SIGNALS SERVICE COURSE

Held at Macedon, Vic.

The No. 2 Signals Service Course, held at Macedon, Vic., from 8th to 11th September, was attended by 30 members, of these 20 were Amateurs.

Present were: P. A. Alexander (VK-2PA), J. B. Battick (VK3OR), K. V. Benwell (W.A.), L. Blagbrough (VK-4ZGL), S. Briggs (VK4SC), T. I. Cairnduff (Tas.), G. C. Casbault (Tas.), Major E. Collett (VK2RU), H. P. Fuller (VK8TF), M. W. German (VK4ZGM), R. G. Harris (VK5RR), R. H. Hildred (VK4RE), Sergeant R. G. Holdway (Qld.), T. A. Holmes (Vic.), P. B. Jackson (VK2ZPJ/T), C. E. Love (N.S.W.), M. J. McDonald (VK6MM), M. M. McGrane (VK4MZ), B. A. McRae (VK-5MC), P. L. Mahan (VK3AOY), L. A. Maschette (VK6ZDM), D. E. Melbourne (VK2NK), G. A. Middleton (VK3GO), R. A. Murphy (VK5ZDX), M. J. Owen (VK3ZE), Rev. Bro. T. Radcliffe (N.S.W.), R. V. Saunders (N.S.W.), Major R. L. Topp (VK3QT), B. E. Wearne (N.S.W.), E. W. West (W.A.).

It is the first time that a course has been attended by so many people with a hobby as a common bond. The others are all connected with communications in some form or another.

The purpose of the course is to instruct the members of the duties of Signals Officers for the Civil Defence Services in Australia.

A background of nuclear, biological and chemical warfare was given.

Message writing, field telephones and cable laying, signal centre duties and records, raising and training personnel, radio procedure and exercises, and planning radio exercises were covered by the course.

One of the major factors evolved from this course was that no matter what form of communications you are using, the procedure in message handling must be standardised, so that confusion does not arise. A badly controlled and confused communication system is worse than no communications at all.

With the development of Civil Defence. In the various States, Amateurs may be required to assist in the train-

ing and operating Civil Defence Signals Sections. We must attempt to get the most from our members who are attending these courses and there will no doubt in the future be others attending similar courses.

We all know that communications are the backbone of any service, be it private, public or civil. These Amateurs and the others are doing their best to prepare for natural and other disasters. What are you doing? Contact your local W.I.C.E.N. Co-ordinator and offer your services.

—Alyn Maschette, VK6ZDM.

NEW CALL SIGNS

JULY, 1964

VK1AXC—J. W. Hutchinson, C/o. Department of External Affairs, Administrative Office, Parkes, A.C.T.
VK1EM—J. Mulholland, Flat 11, Block 14, Northbourne Plaza, Braddon, A.C.T.
VK1UU—G. A. Sangster, 33 Hollis Ave., Goulburn

VK1BAE—D. C. Boudry, 201 Kennedy St., Armidale.

VK1ZF—J. W. Alpin, Bankside St., Orange.

VK2ZF—R. Bowden, 40 The Grove, Moosman.

VK1ZJ—A. J. Jones, 10 McAllister Ave., Engadine.

VK1ZM—J. P. Mack, 78 The Crescent, Cheltenham.

VK1LL—M. W. Buach, 72 Good St., Belconnen.

VK1ACT—C. Cutts, 945 High St., Kew.

VK1AIV—N. O. Duncan, 13 Kenby Rd., Heathmont.

VK1ANR—Geelong Radio and Electronics, Guild Hall, Myers St., Geelong.

VK1ZCN—A. P. Leversha, Harcourt.

VK4ZLL—Lahavue, 187 Werry St., Fortitude Valley.

VK1ZPW—W. Spring, St. Leo's College, St. Lucia.

VK1ZT—C. Thompson, Boys' Grammar School, Rockhampton.

VK1FA—E. F. Brandon, C/o. Dpt. of Civil Aviation, Goddards.

VK1UJ—S. Burns, 4 Arthur St., Whyalla.

VK1QM—M. W. Higgins, 19 Beta Cres., Panorama.

VK1ZB—G. Downing, 4 Bella St., Gawler East.

VK1ZDA—D. M. J. Bates, 23 Allison Ave., Essendon.

VK1ZJD—J. E. R. Dunkley, 54 Radrick St., Kilkenny.

VK1ZOF—G. C. Adams, 225 Shepherds Hill Rd., Eden Hills.

VK1ZEN—G. D. I. Armstrong, C/o. Station 6WA, Wagin.

VK1ZEM—B. M. McDonald, Station: Mumbulla Farm, Williams; Postal: P.O. Box 47, Williams.

VK1ZB—B. J. Mennie, P.O. Box 61, Rabaul.

VK1PL—J. G. Porter, C/o. Eng. Branch, Posts and Telegraphs, Port Moresby.

R.S.G.B. 21-28 Mc. TELEPHONY CONTEST—DECEMBER 5-6, 1964

Radio Amateurs throughout the world are again invited to take part in the annual R.S.G.B. 21-28 Mc. Telephony Contest to be held this year on December 5-6.

Attention is drawn to changes in the scoring system described in detail in Rule 8. Contestants are advised that in previous years many points were lost by those who did not read this rule carefully.

Duration The Contest will start at 0700 G.M.T. on Saturday, December 5, and end at 1200 G.M.T. on Sunday, December 6, 1964.

The Contest is open to licensed Amateurs in all parts of the world.

Contacts may be made using any telephony system for which the entrant is licensed. Only one contact on each band may be made with a specific station, whether fixed, portable, mobile or alternate address. Duplicate contacts must be logged and clearly marked as duplicates without claim of points.

Contest Exchanges: An exchange of RS reports followed by a three figure serial number starting with 001 for the first contact and increasing by one for each successive contact.

Entries (a) should be clearly typed or written on one side only of foolscap or international A4 size paper; (b) must be ruled in columns headed (in this order) (i) Date/Time (G.M.T.); (ii) Call Sign of Station Worked; (iii) I sent him; (iv) He sent me; (v) Band; (vi) Bonus Points; (vii) Points claimed; (c) must be addressed to the Contest Committee, Radio Society of Great Britain, 25 Little Russell St., London, W.C.1, England, the name of the Contest being clearly shown on the top left hand corner of the envelope, which must be postmarked not later than December 31, 1964.

Rule 8. Scoring: Overseas stations may only claim points for contacts with British Isles Stations (G, GB, GC, GD, GI, GM and GW). Overseas scoring will be as follows: Each completed contact with a British Isles station will score 8 points. In addition, a bonus of 35 points may be claimed for the first contact with each British Isles country-numeral prefix on each band. A further 50 bonus points will be scored for every ten stations worked in each of the above categories irrespective of band.

Certificates will be awarded to the leading station in each VK call area.

The usual cover sheet and declaration must accompany each log.

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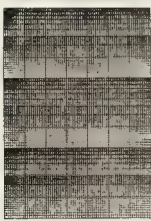
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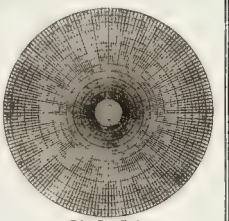
Power Emission Graph 4d. sheet

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Radio Rcvr. Performance Graph 4d. sheet



3 Cycle Semi Logarithm



Polar Co-ordinate.

The following letter from John Lee, WYKKA, contains some interesting news from U.S.A. and is published herewith.

"I just received a copy of your Ham magazine, 'Amateur Radio', and am glad to see that Ham in other places on the world have not given up on v.h.f. Also find it very interesting that you are using the u.h.f. frequencies. They are not in wide use here in the U.S.A., considering the number of Hams here.

"We also have the television problem on 50 Mc, but it isn't because the t.v. station is inside the Ham band. Our lowest channel is Channel 2 (54-60 Mc.).

"There are quite a few Hams on 80 and 144 Mc. All over the country. Now that the sunspot cycle has gone to a minimum, and band openings are few and far between, some of the Hams have gone to working tropo and meteor scatter for DX. The best time for this propagation seems to be early in the morning 0600 to 0900 local time, and the best path seems to be north and south. Distances of around 1000 miles are not uncommon for the high power stations. However, I only run 300 watts input with a single 4-160A (4D2), and have an eight element beam up about 40 feet. So far my best scatter DX is San Francisco (about 275 miles). Other stations work consistently distances such as from Los Angeles to San Francisco and from San Francisco to Seattle, and Portland, Oregon. On 'skip' openings, of course, you know what can be done.

"Well some day the sunspots will be back and maybe we will have a QSO on six. I will be there as I leave the six metre receiver on most all the time I am awake. Also, if you are interested, we have many antennas and rig designs available here and would be glad to send them with you. For now, good luck and DX."

John's address is P.O. Box 473, Fortuna, California.

As VKX and VKX notes have not been received for some time, would these Division please consider a new correspondent? TA, 3ZGP

LATEST LIST OF V.M.F./U.M.F. RECORDS FOR AUSTRALIA

- 80 Mc. m.
VK3ALZ-XE1FV-1/5-56-6.110 miles
144 Mc. m.
VK3ZGP-ELIAD and ELIAUM-34/12/53-1361 miles.
432 Mc. m.
VK3OB/3-VK3ZAV-3-19/1/54-87.3 miles.
576 Mc. m.
VK3ZDS/6-VK3LK/8-13/12/53-101.3 miles.
1215 Mc. m.
VK3ZAC-VK3ZCT/3-4/1/53-66.8 miles.
2000 Mc. m.
VK3XA-VK3ANW-18/3/50-8.0 miles.
3200 Mc. m.
VK3ZGT-VK3ZGK/3-VK3ZDQ/3-14/12/53-61.5 miles.

THE BEACON BOX

- VK3VF--
6 Metres - 53.000 Mc.
2 Metres - 144.800 Mc.
One call on c.w. then carrier for 40 seconds, then repeat, etc. Operation is almost continuous.

- VK3VF--
6 Metres - 52.006 Mc.
2 Metres - 145.060 Mc.
Automatic c.w. identification with approximately four seconds key-down position. Operation is almost continuous.

- VK3: ATVO--
51.75 Mc. f.m.
3000 - 2300 hours daily.
(100w/c. p.p. 3600 ft. elevation)

VICTORIA

This past month has seen a rise in activity on the bands as winter's long and cold nights are giving away to longer and warmer days. The advent of the warmer nights have given impetus to a return to the shack. New call signs (and older) are appearing each week. There is an increase in the users of the net frequencies since the "activities" Dep. on 12th Sept. in Victoria. The 53.32 a.m. net is receiving quite a lot of attention and some 40 odd stations have been logged on this channel. The f.m. net on 52.13 Mc. is slowly picking up. There is a small supply of 70 Mc. f.m. mobiles coming on the market here and they are being snapped up.

The really keen 8 m.x enthusiasts are working on their gear, ridding themselves of Channel 6 problems. With a bit of a bit of the regular 3 m.x. getting on the air during the Ross Bull Contest. Other States should catch the Melbourne gang probably down the low end of the band during the programme (last pattern) hours and then higher in the band during regular programme times. Approx. 3.20 p.m. onwards except for special use. Channel 6 will be programme time. Approx. 9 a.m. onwards is last pattern time.

From comments quite a few fortunate ones have no problems, however as the activity increases, no doubt so will the problems. Most of us will use vertical polarisation to minimise possible problems.

Two metres is showing quite an increase in activity. The field day season will commence in October and take place on the third Sunday of each month except Feb. which will coincide with the National Field Day. Same rules will be later. The 2 m. band is proving to be more active on this band this season.

432 Mc. has attracted quite a following with some 15 or so enthusiasts. Just recently a 120 mile away was made between 3ZGP/3 and 3OB/3. We trust the Amateurs concerned will make a claim for the record—anything to pass the time.

1296 Mc. has interested a few here in Melbourne and I believe in Geelong 3AUX has a really "hot" converter with cavities constructed from brass. Well some day we may hear. We gather the expression "not worth 3 bob" can't apply here also as we have seen the unit can touch for the price that there is more than "2 bob" worth of silver in it.

It is hoped soon to produce a "V.H.F. Newsletter" in VK3 and if our plans are realised there will be hope to keep more in touch with you per this media. Having seen both the VK3 and VK6 varieties, we have no illusions that it is a hard work. Here's hoping for success TA, 3ZGP

VK3 52-54 Mc. stations and frequencies from the Melbourne area, supplied at the request of other VK Divisionists 52.02-52.04 32.10 32.12 ZGP (fixed and mobile); 52.30 32.00; 52.36 32.00; 52.37 32.00; 52.38 32.00; 52.39 32.00; 52.40 32.00; 52.41 32.00; 52.42 32.00; 52.43 32.00; 52.44 32.00; 52.45 32.00; 52.46 32.00; 52.47 32.00; 52.48 32.00; 52.49 32.00; 52.50 32.00; 52.51 32.00; 52.52 32.00; 52.53 32.00; 52.54 32.00; 52.55 32.00; 52.56 32.00; 52.57 32.00; 52.58 32.00; 52.59 32.00; 52.60 32.00; 52.61 32.00; 52.62 32.00; 52.63 32.00; 52.64 32.00; 52.65 32.00; 52.66 32.00; 52.67 32.00; 52.68 32.00; 52.69 32.00; 52.70 32.00; 52.71 32.00; 52.72 32.00; 52.73 32.00; 52.74 32.00; 52.75 32.00; 52.76 32.00; 52.77 32.00; 52.78 32.00; 52.79 32.00; 52.80 32.00; 52.81 32.00; 52.82 32.00; 52.83 32.00; 52.84 32.00; 52.85 32.00; 52.86 32.00; 52.87 32.00; 52.88 32.00; 52.89 32.00; 52.90 32.00; 52.91 32.00; 52.92 32.00; 52.93 32.00; 52.94 32.00; 52.95 32.00; 52.96 32.00; 52.97 32.00; 52.98 32.00; 52.99 32.00; 53.00 32.00.

Most of the stations on the above list are very active. The equipment used on the 53.32 Mc. net is mainly Pye Reports (Mk. 1, II, III) using respectively 35, VK474, and 3123 mhz. with inputs of 5, 12 and 15 watts. These units have car-to-car range of 5-10 miles in the city and up to 46 miles across country, but the range of the latter is not so certain. These units have the following v.h.f. band coverage: 2 m.x. controlled: 31M, 31U, 32C, 34HL, 24LZ, 34XG, 32FC, 32HF, 32UL, 32CM.

A few chaps have had t.v. problems. The main ones believed involved the 50 Mc. and later harmonics getting into the f.i. strip. The first trouble is easily cured by fitting a 4 ft. length of 30 ohm feeder on the antenna terminal of the t.v. set and then down until

picture and sound are restored. The final length varies between 44 and 65 inches, depending on the length of feeder between the antenna terminal and the tuner. The harmonic from a car can be cured by using a band trap in the grid of the multiplier stages in the transmitter. Tune the trap to the unwanted harmonic that is causing the trouble, which is usually between 30 and 45 megs. The same system works on 144 megs to prevent interference to Channel 5A.

V.H.F. Conventions. The V.H.F. Group held their Convention on 10th and 11th October at Ferry Creek in the Dendongong Mangas, about 35 miles east of Melbourne. It was quite a success and it is planned to hold more in the years to come.

V.H.F. Group Meeting. The last two v.h.f. group meetings (which are held on the third Wednesday of each month) were given over to talks on f.m., with a display of some commercial equipment. Many VKs have been converting to the local nets on 145.984 and 146 megs.

Two Metres Season: Planning is well under way for this season. It should be operating in the new year. The proposed frequency is 145.98 meg. The VK3 1 m.x. beacon on 51.75 meg. is being used. The VK3 1 m.x. beacon operates between 1100 hrs. and 2300 hrs. daily. The antenna has two nulls—one is in the north-west and the other is in the south-east. The Brisbane direction Reports to hand show that it is very strong in some parts of New Zealand—to the effect that it blotted out their signal. In Wellington a little while back. A local daily newspaper reports that the managing director of the station can watch Channel 9 news on his 2 m. mobile. Many VKs have an ordinary fringe area antenna and an unmodified commercially available t.v. rx. 73. 3ZGP.

QUEENSLAND

Signals which have been absent from the bands during winter are gradually beginning to appear. In the last few months, it seems that some of us either undertake a re-building programme during winter months. In the last few months, it seems that some of us either undertake a re-building programme during winter months. In the last few months, it seems that some of us either undertake a re-building programme during winter months.

A continuing stream of new voices have been heard on the bands. Lately it seems that many of the local low-banders have found that the very high frequencies are relatively free of noise and interference. Many stations, which has been working crossband, 8 to 90 mhz, until he can become fully operational on 8 mhz. Paul 4UL has been convinced that he should make a noise (Roy 4ZRM did to convince). Even "gravel voice" Claude 4UX from up north was worked on 3 mhz recently. With him was a VK3 who is a 300C, who is leading the Youth Radio Scheme here in Queensland. Both these fellows spoke via the station of Bruce 4ZCM.

While not chasing sidebanders on 80 mhz, Roy 4ZRM has been having plenty of discussion around his favourite subject of aerials on 8 mhz. Low power mobiles are now a thing of the past. The Reg run 8 watts to his 436 with no melting tendency of the valve. Also I have heard that 4WF is going mobile on 53 megs.

George 4ZLG was quite astonished recently to find that his Reg run 8 watts to his 436 with frequency f.m. well above 53 Mc. George wound his v.i.o. up to their frequency and he heard a 2 mhz. w.m. mod. noise. When George's carrier caused a heterodyne but his modulation was completely removed by their limitations. However, contacts were finally established on the following day.

With all this talk of low beamce operators, I assure you that the 2 calls are still active and have not as yet been abandoned. Frank is using his new v.f.o. to best advantage and has just obtained an ARF. Frank has now retired from work and has more time to spend on the bands now. ARF 4CJ who is better known as 4W1, has been on holidays and he was told before he left, "don't catch the 436, it's a jump band, it's not yours."

Tom 4ZAL made many calls during his recent holidays. He met quite a number of Hams down in Southport who are interested in v.h.f. The 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

Arthur did tell of his many efforts trying to make contact on 6 mhz from Normanston to New Guinea when he was stationed up there. He used to call CQ VK3 quite a bit but could not break through. While on the subject of VK3, someone please tell Paul EZBV that he can come back and use his old call sign since they have decided to close down the office just down the tramline from his Brisbane QTH.

News from the Bundaberg district indicates that there are now four 6 mhz stations in a nightly hook-up. It seems John 42M3 is thinking of a 50 ft. mast and Roy 42WV and Bill 42WV have been working on a tx and two super-regen. rx's for 2 mhz.

The Ipswich Amateur Radio Club seems all set to appear on 6 mhz. They intend to apply for a club call sign, but at the moment they will be using the call sign of Warren 402L. Bill 42WV will be putting in a v.h.f. signal from Ipswich in the near future. Bill has accepted a position at the local C.B. station.

Victor 42BT has not been the best. He has had quite a stay in hospital and by the time this is published we hope that he has well and truly recovered. Lawrence 42LL has been heard using a telephone on 6 mhz—welcome to the bands OM.

John 42WB in Dalby has been having a good time on 144 mhz. While calling Heri 42CF in Townsville, he was called by 2WQ in Grafton. Not a bad effort for 350 miles on 2 mhz! By the time the v.h.f.ers say congratulations to David 42KX for taking out the VK3 Honour in the last Ross Hull Contest, it is just about time for the next Contest. Anyway, David well done.

Had words with Jim 42RA who hopes to be on the bands soon. Certain stations have already been using certain phonetics for his call sign, but these haven't been published or broadcast. What did you say about Roky Apples Tom? Ross 42AT has been calling from Brisbane Island on 144 mhz. He was in doubt about the efficacy of his gear until someone heard him crying out in the wilderness.

If recently you heard the "Duke of Deagon" calling swing corners, promenades, ladies to the centre, do not think he was kidding. It had happened as it was only a dance in progress. The grape vine has been very active lately and along it come the news that kind items of one of our northern towns are very busy with Amateur v. Further, who was the v.h.f. station listening to 40L model on 6 mhz when he should have been tuning in 6 mhz? Was the Jamboree on the air v.h.f. wise was a big success. I should have been with all those stations operating 73, 42FL.

WESTERN AUSTRALIA

The field day over 11th-13rd Sept. was a big success. Lance 6LR tried to read the time point 7 miles east of Bindoon but wound up in a field exercise being conducted by some branch of the services. He got the password eventually for he was on the air for the 1

a.m. session. He called several stations who never came back and would like you to swing the beam north west time. Ken 62BT has trouble with 2K v.a. motor alternator. It's big end and main disintegrated due to using wrong oil. Trevor 62CA had a squashed petrol tank due to head road near his Dwellingup site. The winner looks like Ken 62BT with 12,430 points, followed by Charles 61K 11,770 points. Andrew 62CW, in Bunbury, won the home station section with 7,725 points.

The fox hunt on 19th Sept. was won by Doug 62DW and Graham 62DB second by a matter of seconds. Ed was booted for two hours in a swamp nearby. He saw a red parking light on the next hill and gave her the gun. Only it was that light appeared over the swamp and was a pretty good bunker. Roy 62BD managed to extract him after they found the aerial poking through the water. The fox was well hidden and quiet, using a vibrator p.a. Just as well, for a goon mob had chosen the site for a beer-up, despite miles of surrounding bush in the South Riverina area. Each hound had a raucous welcome and needed some extra guidance as the tone had failed. Supper was at Bill 62B's residence 73, 62AG.



YOUTH RADIO CLUBS

There is a new aspect to our clubs which your members should find exciting. It concerns the Duke of Edinburgh's Award Scheme—a challenge to the young people of Australia to show what they are made of. It is not a competition against others, the challenge is a personal one for each boy or girl (between 14 and 18) to reach standards laid down in one activity from each of four groups, e.g. for boys, Rescue and Public Service, Expeditions, Pursuits and Projects, and Fitness.

It is likely that our Y.R.C.s certificate will be acceptable—some discussion has been started. Club leaders can get full information from their State Supervisors on this part, but the general conditions for other clubs are laid down by the National Fitness Council. Club leaders who have members with wide interests and sufficient of what it takes to tackle all four sections should have a drive on this one. Who will be the first Y.R.C. member to be presented with the Duke of Edinburgh's medal by the Duke or the Governor-General?

Some items from VK3: Some details are now available about the latest Goodby A.O.C.P. Paul Goldsbrough, of St. Edward's College, Gosford. Lee Kinella, who started Paul on the bands in America. Radio writes that Paul passed full certificate but has to wait till next year to turn 18 before getting his licence. He did c.w. mainly with the VK3 Blow Moose session, but also had tapes from the Blow Moose station.

wart organiser, Frank 2ACQ, Lee (BAXX), of Christian Brothers' College, Wellington, at present has a booklet of Y.R.S.I. (Administrative Details) which he is sending and club leaders, so you should send Lee a half-foolish envelope (stamped with 6d), print Y.R.S.I. in bottom left corner, include one 6d stamp to help with expenses.

A nice budget of news from 4 Uncle Charlie. There are now 15 registered clubs. 4PE at Pades Collage went on the air on 19th Sept with a report on 4D in stance and club histories and club member Bob Stroud operating making contact with 4WL, 4PL, (VK4 President), 4WQ, 40ntarfi High 43DS (De La College), 4AIIH (High 43DS) and some BAXX at Wellington. New clubs at Redcliffe High run by teacher Ken Katibi, Yeronga High 43D teachers and teachers at Redcliffe. Amateur Radio Club has formed a strong and active Youth Section which meets on Friday night at the QTH of Warren 402L (the leader), has 22 members (10 to 15 years) with projects ranging from xtal set to 4-tube superhet. Office-bearers are Minipin House (Pres.), Peter Twining (Sec.) John Bette (Pres.). Publicity in the Ipswich Press brought in 40 old radios. They aim to have a station licence next year.

Clontarf High is on the air three afternoons a week looking for contacts from 3.15 to 4. Claude 4UX is to address the October meeting of the Science Teachers' Association of Qld on Y.R.C. and the importance of science and operate a station. There is to be an article in above Association's newsletter and in the club newsletter. The Queensland and Australian Scout Groups are very keen but stranded—no Amateurs in the area, not even somebody mildly interested in Radio, to help them!

News from VK3 is interesting and widespread. Bill 42WV and Roy 42WV and Everett, of A.P.L. are assisting with Royal Vic. Institute for the Blind at Burwood. Some of the standard radio symbols are being built out by the club on a sign on the wall. The Braille lettering. Robin Rowlands, of Botch College, gives the news that Peter Garde should be active on 2 mhz and hopes to sit for the s.w. in October. Club at Koorumbura reports members building wide range of projects including 2 and 6 mhz tx, 2 mhz amplifiers, etc. New club at Strathmore High with instructor Mr. P. K. Alsop. Wilf Miles bearing the load at the Australian Postal Institute. Dave Back and this club are great supporters of the Y.R.S. Boys at Bundoora received their first QSL from Division President of VK3, who also wrote a letter of encouragement.

Sunday, 19th Sept., was open day at the Christian Bros. Edmund Rice College, Bundoora. Harry 32B initiated a portable tx, the club of the Y.R.C. display, a demonstration of Amateur Radio in action to club members. The tx was loaded into a long wire antenna on 80 mhz and the following YR stations were contacted: STL, 3AVK, 3DF, 3RO, 3VL and 3MO. Each of the boys had a turn at the mike and were impressed by the way a net was quickly formed out of one contact. Featured as part of the Y.R.C. display were the elementary certificates the boys had received recently, also equipment and books donated to the club. The crystal sets and one-valve tx's built by the boys are part of the practical tests, and working. The display was a credit to the club who were able to fill a class room with items that created interest amongst the parents and other boys of the school. (Thanks for this info. to Dave 32AX).

I had a chat to Bob 50D on the air recently and was glad to hear things are moving generally in VK3. I know time is needed to get things going but we are looking forward to the next few months in VK3, especially after the schools resume in February.

Would like to talk in more Y.R.S. stalwarts. I've often offered to operate Canberra Radio Society on 80 mhz, Friday night about 6.30. If anybody cares to give me a call, will appreciate it. 73, Ken 1KM.



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FEDERAL AND DIVISIONAL MONTHLY NEWS REPORTS

(SEND CORRESPONDENCE DIRECT TO DIVISIONAL REPORTER NAMED AT PARA. END)

FEDERAL

I.A.R.U. NEWS

Region II. Division

From 14th to 18th April, 1964, representatives from 18 I.A.R.U. Societies in Region II met in Mexico City to form the Region II Division of the I.A.R.U. A constitution, patterned on that of Region I, was drawn up and an executive committee of six were appointed. Those appointed were:

Chairman: Antonio Pitti, XE1CCP.
Vice-Chairman: Italo Giammattei, YS1IM.
Secretary: Gustavo Teusena, OAAAV.
Treasurer: Noel Eaton, WECX.
Member: Miguel Cryach, LUSDCA.
Member: Robert Dennison, W4NWZ.

The new division looks forward to receiving further membership from countries not represented at the inaugural meeting.

U.S.A. Reciprocal Operating Privileges

On 38th May, 1964, President Johnson signed a bill on reciprocal operating for Amateurs to eventually make it possible for foreign Amateurs to apply for operating privileges in the U.S. When permission is granted, the foreign Amateur will be able to use his own call sign with an appropriate portable suffix. The A.R.R.L. hopes that Societies interested in this participation will approach their administrations to obtain this agreement with the U.S. State Department.

U.K. Licences Structure

The R.S.G.B. has announced that as from 1st June, 1964, a revised licence structure has been instituted. Existing licences will be replaced over the next year. The new structure includes the Amateur A, Amateur B, Amateur C, Amateur D, Amateur E, Amateur F, Amateur G, and Amateur H. The A is the general licence, and Amateur B is a phone only licence restricted to operation between 30 Mc and 30 MHz, including the frequency 3.5 and three letter suffix. Amateur C, V, licences will be assigned G6 three letter calls followed by /T. Stations operating from a temporary location will not be allowed to use the prefix of the G country they are in followed by the call letters and /P. Log times are to be kept in G.M.T. while the frequency used, rather than the Amateur band, will also be required. As from this date, the 70 Mc. band will be extended to 70.1-70.7 Mc.

Newly Developing Countries

The following is in part the text of a letter from an official of one of the newer countries. This official is also a licensed Amateur:

"American Amateurs do indeed have a large responsibility for the future of Amateur Radio by virtue of their numbers and by the standards they set in the developing countries, however. It is relatively easier for the local Amateur to maintain contact with the licensing authorities and to enhance (or damage) our image with them. A very great responsibility must therefore rest with those few Amateurs in DX locations. Most countries would like the world to know more about them; hence desire for short-wave broadcasting. Our job is to convince the right people that 100 Amateurs at 100 watts each are worth more than one 10kw. broadcast station. The way I see it, we need more publicity directed towards telecommunications authorities in the newer countries. Could we not emulate the practice of companies by sending complimentary copies of 'QST' to many administrations?"

The above includes many words of wisdom with which we heartily concur.

Retirement of G6CL

After 32 years as secretary-general of the R.S.G.B., John Clarrincoe (G6CL), retired last December 31. Clarry was one of the leading lights in the conduct of the Region I Division of the I.A.R.U. and has consented to continue as secretary of its Executive Committee. He said more people related to those of the I.A.R.U. and in wishing him a happy retirement and satisfaction that his vast experience is not to be lost to world-wide Radio Amateur affairs.

Commemorative Stamp

The A.R.R.L. in celebrating its 50th anniversary this year is fortunate in highlighting the occasion by the approval of the U.S. Department for the request for the issue of a postage stamp honoring Radio Amateurs. For those philatelists who are interested, October was the month for issue.

New Union Members

The W.I.A. takes pleasure in welcoming the Jamaica Amateur Radio Association (J.A.R.A.), the Radio Amateur Association of Greece (R.A.A.G.), and the Radio Society of Ceylon (R.S.C.) as new members of the I.A.R.U. Calendar 64 also announces proposals for the Amateur Radio Society of Barbados (A.R.S.B.) and the China Radio Association (C.R.A.) to become members. The W.I.A. has voted in favour of the A.R.S.B., but only in the case of the C.R.A., as in this case all of the qualifications for membership have not been met, the main point being that of 1,000 members of the C.R.A. only one is a licensed Amateur. It should also be noted that the old Association des Amateurs-Emetteurs du Maroc (A.A.E.M.) has changed its name to the Association Royale des Amateurs Emetteurs du Maroc (A.R.A.E.M.).

Amateur Band Intruders

In most I.A.R.U. Calendars are listed intruding stations into Amateur bands, as logged on a number of occasions by the International Frequency Registration Board of the I.T.U. which has 83 different monitoring stations located throughout the various sovereign nations. The last calendar, number 63, of Russian stations was listed, but particularly two on 7060 and 7035 kc. The secretary of the Radio Sports Federation (R.S.F.), the Russian I.A.R.U. Society, has informed the board that his government denies operation of any stations in the Amateur bands. We offer no comment on the above, but urge the board members who have the time to report any infringements of this nature through their divisions. Forms should be available for reporting from your Division.

FEDERAL EXECUTIVE, 1964-65

The following Federal Executive Officers were appointed by G. Roll VK2ZS, Fed. Vice-Pres. 31st July, 1964:

Major Bill Mitchell, VK1JUM, Fed. President.
G. Roll VK2ZS, Fed. Vice-Pres.
Jay Lancaster, VK1JL, Fed. Secretary.
Robert Boase, VK3NI, Fed. Treasurer.
David Rankin, VK3VY, Fed. Activ. Mgr.
A.J. Seedman, VK3IE, Fed. Business Mgr.
Arthur Tinkler, VK3ZV, Fed. Com. Mgr.

The following co-opted officers of Federal Executive have been appointed for the tasks shown:-

Pat Jones, VK3RJ, QSL Officer.
Alf Kimes, VK3KE, Awards Officer.
Tom Strangharr, VK1ABV, Project Officer.
Georg Glover, VK2AG, Historical Officer.
Lionel Sharp, VK4NS, Contest Officer.
Rex Black, VK3YA, Youth Radio Club Offc.

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NEW SOUTH WALES

SUNTER BRANCH

And so the Hunter Branch Convention is past. What a successful Convention this was. For the first time in many years, the customary "all male" dinner took a new face-included a few ladies. The dinner was favoured with the pleasant company of the ladies. And from all reports the ladies enjoyed it too. So why not make this a regular feature. Business annual event? It certainly was the formula for success this year. All told, there were 80 members and guests at this year's convention, and following the more formal speeches delivered by Lionel KCB, Pierce 2APQ and Keith 2AKX, another Keith, 2ZAH this time, of the staff of the R.S.G.B., gave us an interesting insight into the future. Keith called this his "Crystal Ball Night" and he chose to describe his future plans. The 2ZAH will be featured soon in the magazine. Stuart 2AYF proposed a vote of thanks to Keith at the conclusion of the evening. Meanwhile, Frank 2APQ kept things rolling at the top

table. I have not quite forgiven him yet, and those who were there will know what that is about.

To begin with the beginning is always a wild move and so I should report first the activities of the constitutional competition. This was the best planned competition we have ever had. The following were the constructors, in order of appearance: Les 3RJ, a two metre sniffer, Mac 2ZMO, a two metre for the table top, Des 2ZDN, two transceivers using transistors; Ian O'Toole, a low frequency rx; Bill 2ZWM, a 5 mc tx; Bill 2ZCV, a 5 mc transceiver, and Bob 2AEL (visitor from Sydney), an a.h.h. transceiver. As can be imagined, deciding the eventual winner was a difficult task indeed with such an array of first class gear. So difficult, that members were asked to vote on the item of their choice so as to assist the committee. Des 2ZDN was pronounced the winner at the prize giving ceremony the next day and his trophy, a c.r.t. donated by Phillips, was a fitting prize for such a good effort.

At first the day looked like being a real beam reducer with winds of 40 m.p.h. or so on the morning of the Field Day, but things calmed down and the final judgment was "a good time was had".

The scramble was won by Dave 2AWZ with the ether crusher while the early 15 mc hunt, only after the event of the morning, was a victory for Harold 2AAH. In the afternoon, things really did an about face when the Susan 2BBS-15 mc transceiver, which was a portable, came in first in the 7 mc hunt. To say that the rig was carefully and cunningly concealed would be boasting I suppose, but it sure was well in the way. I am led to believe that Susan's car is available for scrap at the call book address. Oh those wicked forces that choose the nastiest roads. In the afternoon 15 mc hunt, known as the Strongarm 500, first in was Harold 2AAH in 14 minutes! Remarks as to vehicle availability.

For those wishing to remain on the ground, there were two quizzes. The both were taken over by the Muller household. The winners of the technical section in a play off with Mac 2MP, with Marcie being the best in the ladies' section. And to cap it off, Tony also had been presented with the V.H.F. D.J. prize the night before! Watch him lad! Best performance of the day went to Harold 2AAH and even the lady visitors were well catered for. Mrs. Pierce 2APQ being the holder of the lucky number. As for the lucky get, it was, or is at the present time, for the prize of two 80s for the holder of ticket F52. Please come and claim them—they are so tempting.

In addition to all the festivities there were some items that may be seen viewed as well. Aric 2AVA had some very compact equipment for the ducktalkers. A top band tent was established between the hall and the Westlake Club and some clown in a beaten

CLOSING DATES

FOR COPY

DECEMBER 1964 ISSUE:

8th NOVEMBER, 1964

JANUARY 1965 ISSUE:

1st DECEMBER, 1964

FEBRUARY 1965 ISSUE:

NO NOTES, etc. See

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Committee Reports)

swears that the walls and mirror were moving one night. This could have been caused by something else however.

Actively on the various bands is very patchy, but one can hear quite a number of signals on 80 most evenings. This will probably change however with the approach of summer and its problems for this band. Twenty metres has been coming to life in the evenings of late, with signals coming from Europe and India. American signals have also been coming in quite well.

Any country member who may have an item to be submitted for the agenda at next year's Federal Convention should submit it

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as early as possible so that it can be processed and ready early. This does not only apply to country members, but also to any members.

Once again this month information has been very scarce and I would very much appreciate anything of interest being passed on to me.

I believe that if anyone would like a demonstration of the working ability of Freeway, they should try it for a likely place. However, would suggest that you use a different story than the one used by one of the members.

Bernie 6KJ was travelling up to Perth and was using his Swan mobile and the signal on 80 was excellent. I believe many more Amateurs have or are building up mobile gear and we should hear more mobile signals in the future.

Your Council will be very pleased to receive any suggestions which you may put forward. If you have any complaints we would like to hear these also.

This seems to be all for now, chaps, so till next month, 7A, ROY 8RY.

TASMANIA

It is strange how little information a scribe starts out with when writing for this column (this scribe, anyway), but after a ten-minute QSO via 600 ohm with a certain person, it seems to keep his ears open all the time. I think I've just about got enough to make a showing.

Quite a few well known call signs have been heard on the air of late, some of them after quite considerable periods of silence. Bob 70M is back from VK4 after an absence of about 10 weeks. "Up there to work," so he said, but I notice he picked the winter months to go. Another "long time no hear" signal is from Brian 7BH, who I am told is back on specifi-ally for the Jamboree, but were hoping he will continue to be heard not infrequently even after the said Jamboree.

Another one is Tiny 7JD whose signal at my QTH is in keeping with his physique—believe he has his stick finished now, so should hear more of him now.

Doug TAB has moved from New Norfolk to Callands in the course of his employment, so some f.b. sign should be heard from the lower midlands when he gets his antenna farm organised.

Crosby 7CW has not been sighted at the time of writing, but if he is going to schedule he should be home in about a week from now—probably got himself so much new gear they will send him on a tour.

I've noticed on the round-up after the Sunday broadcast that the broadcast officer often has to ask for a repeat call from some side-band station that haven't quite given him time to switch the product detector in, so what about a little longer call you side-banders!

After quite a few weeks of trying a sure path has been found by Eddie 7ZBM out of Tarrareah into Hobart on 2 mhz, been getting 5 by 8 to 9 reports both ways, good work Eddie. Hope to work you myself soon.

Notice the Northern Zone President (Denny 7DK) has gone a.s.b. He said him a.s.b. Don't know as yet whether he is using it on v.h.f. or not. Knowing Denny, I reckon he'll try it this coming season.

Incidentally, it's planned to have quite an auction (American) as in American tea-at the Hamfest this year. Proceeds for the I.T.U. fund. So stand by for a repeat call from some other fellow might like to buy, and you're willing to donate! 7A, Geoff 7ZAS.

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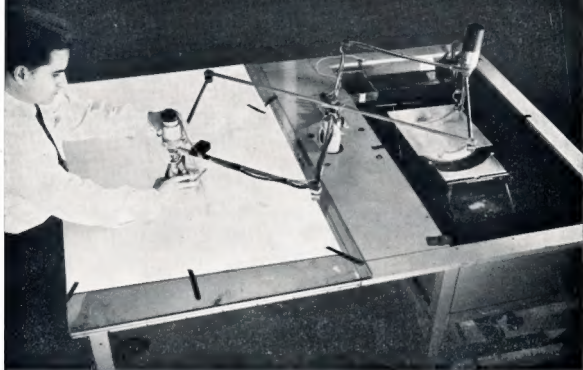
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